APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,417	12/06/2001	Jin-seok Hong	Q65283	5427

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EXAMINER
SHARMA, SUJATHA R

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/003,417	HONG, JIN-SEOK
	Examiner	Art Unit
	Sujatha Sharma	2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 December 2001*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2,3</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this
or a foreign country, before the invention thereof by the applicant for a patent.

2.   Claims 1,2,4,6,7,12,13,15,17,18,21 are rejected under 35 U.S.C. 102(a) as being

anticipated by Hwang [WO 00/74275].

Regarding claims 1,6,12,17,21 Hwang discloses a method of novel system for

handoff where a channel construction of a base station is disclosed. Hwang further

discloses a base station/a wireless communication apparatus transmitting and receiving

data wirelessly, comprising:

- a transmitting portion for transmitting the data through at least one frequency

  channel. See page 8, lines 18-27

- controller for obtaining a number of transmittable channels of a counterpart

  wireless communication apparatus that the wireless communication apparatus

  intends to communicate with (controller 101 processes the messages received on a

  forward dedicated control channel, the said message related to packet data service

  i.e. message indicating number of supplemental channels required by the

  counterpart wireless apparatus), and processing to transmit the data through the

  transmitting portion according to the obtained number of transmittable channels

  (the controller 101 enables/disables the individual channel generators and thus

  assigns/releases supplemental channels). See page 8, lines 18-35.

Regarding claims 2,13, Hwang discloses the base station/wireless communication

apparatus of claim 1, wherein when the counterpart wireless communication apparatus

receives the data through a plurality of frequency channels, the controller transmits the

data through the plurality of frequency channels to the counterpart wireless

communication apparatus (the controller 101 enables/disables the individual channel

generators and thus assigns/releases supplemental channels). See page 8, lines 18-35.

Regarding claims 4,7,15,18 Hwang further discloses a method wherein the at least

one frequency channel includes a basic channel for supporting a communication with

other wireless communication apparatuses having a single channel/fundamental channel,

and a plurality of additional channels consecutively or inconsecutively positioned with

respect to the basic channel. See page 8, lines 18-35.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a person
having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
manner in which the invention was made.

4.   Claims 3,10,14,23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hwang [WO 00/74275] in view of Rune 2003/0012173].

Regarding claims 3,10,14, Hwang discloses all the limitations as claimed. However he does not disclose a method wherein, when the wireless communication apparatus is operated as a master, the controller obtains the number of transmittable channels of the counterpart wireless communication apparatus, by performing an inquiry operation with the counterpart wireless communication device. Hwang obtains the number of transmittable channels from the counterpart wireless communication device on a forward-dedicated control channel

Rune, in the same field of endeavor, discloses a method where the base station/wireless communication apparatus polls a slave/counterpart wireless communication device to obtain frequency information. See Page 1, paragraphs 6,7,8; summary of invention, page 4, paragraphs 50,52.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the above teachings of Rune to Hwang in order to reduce the signaling information and thus efficiently utilize the network resources.

Regarding claim 23, Rune further discloses a method of operating a piconet by configuring the wireless apparatuses in a master/slave environment. See summary of invention.

5.   Claims 5,8,16,19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang [WO 00/74275] in view of Bluetooth specifications [XP-002214950].

Regarding claims 5,8,16,19, Hwang discloses all the limitations as claimed. Hwang further discloses the method of assigning a fundamental channel and supplemental channels wherein the fundamental channel and supplemental channels will become traffic channels. However he does not disclose a method wherein, while transmitting the data in parallel, the controller applies a frequency hopping pattern to the plurality of additional channels, corresponding to a frequency hopping pattern applied to the basic channel.

Bluetooth Specifications teaches a method where the hop frequency applied shall be the hop frequency as applied in the time slot where the packet transmission was started i.e. when applying this teaching to Hwang the hop frequency applied to the basic/fundamental channel at the beginning of the transmission will be applied to the consecutive supplemental channels as well. See section 2.3.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the above teachings of Bluetooth specifications to Hwang in order to reduce the interference in the system while accessing frequency channels and thus improve the performance of the system.

6.   Claims 9,21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang [WO 00/74275] in view of Rinchiuso [US 20020090004].

Regarding claims 9,21, Hwang discloses all the limitations as claimed. Hwang further discloses a method of assigning supplemental channels in addition to the basic/fundamental channel to transmit information to the counterpart wireless communication device.

Hwang, however, does not disclose a method wherein, when the data for transmission is real time data, the controller grades the real time data, and transmits essential data of a basic grade for utilization of the real time data through the basic channel, and transmits the data of other grades through the plurality of supplemental channels.

Rinchiuso teaches a method for scheduling and allocating data in a broadband communication system. Rinchiuso further discloses a method where the controller in the base station sets the grade or quality of service (QoS) for the fundamental channel carrying voice traffic and the supplemental channel carrying data traffic independent of each other before transmission. See page 1, paragraph 7. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the above teachings of Rune to Hwang in order to efficiently utilize the system resources and provide high-quality voice services.

7.   Claims 11,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang [WO 00/74275] in view of Uchida [US 20010055973].

Regarding claims 11,22, Hwang discloses all the limitations as claimed. Hwang further discloses a method of assigning supplemental channels in addition to the basic/fundamental channel to transmit information to the counterpart wireless communication device.

Hwang, however, does not disclose a method wherein when the counterpart wireless communication apparatus receives the data through one channel, the controller transmits the data through a basic channel.

Uchida, in the same field of endeavor, discloses a method where data is transmitted on a basic channels and a supplemental channel is assigned only if required. See page 3, paragraph 45.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the above teachings of Uchida to Hwang in order to efficiently utilize the system resources.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rune [US 2001/0005368]   Method and communication system in wireless ADHOC networks

Igarashi [US 2003/0139186]   Mobile communication system

Deboille [US 6,717,926]   Apparatus and associated method by which to transmit beacon signals in radio communication system

Struhasker [US 6,512,751]   Method and system protocols for providing voice, data and multimedia services in a wireless local loop system

Haartsen [US 2002/0167961]   Dynamic bandwidth allocation in ADHOC wireless piconets

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sujatha Sharma whose telephone number is 703-305-5298. The examiner can normally be reached on Mon-Fri 7.30am - 4.00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sujatha Sharma
August 31, 2004

NICK CORSARO
PRIMARY EXAMINER